CLAIMS

1.   A packet data serving node for connecting a
communication terminal device to a public network by
using Point to Point Protocol (PPP), comprising:

LCP phase processing means;

NCP phase processing means;

decision means for deciding a type of a
reception PPP packet; and

control means for making said NCP phase
processing means transmit an NCP start request message
destined to said communication terminal device, after
an LCP phase is completed and said decision means
receives an NCP start request message from said
communication terminal device.

2.   A packet data serving node for connecting a
communication terminal device to a public network by
using Point to Point Protocol (PPP), comprising:

LCP phase processing means;

a plurality of NCP phase processing means;

decision means for deciding a type of a
reception PPP packet; and

control means for selecting one of said NCP
phase processing means corresponding to a layer 3
protocol used by said communication terminal device and
making said selected NCP phase processing means
transmit an NCP start request message destined to said
communication terminal device, after an LCP phase is
completed and said decision means receives an NCP start

request message from said communication terminal device.

3.   A packet data serving node for connecting a communication terminal device to a public network by using Point to Point Protocol (PPP), comprising:

LCP phase processing means;

NCP phase processing means;

decision means for deciding a type of a reception PPP packet; and

control means for setting a layer 3 protocol used by said communication terminal device to said NCP phase processing means and making said NCP phase processing means transmit an NCP start request message destined to said communication terminal device, after an LCP phase is completed and said decision means receives an NCP start request message from said communication terminal device.

4.   A packet data serving node for connecting a communication terminal device to a public network by using Point to Point Protocol (PPP), comprising:

LCP phase processing means;

NCP phase processing means;

decision means for deciding a type of a reception PPP packet;

statistics processing means for statistically processing a type of a layer 3 protocol under PPP; and

control means for selecting said NCP phase processing means using a layer 3 protocol designated by

said statistics processing means, and after an LCP phase is completed, making said NCP phase processing means transmit an NCP start request message destined to said communication terminal device.

5.   A communication method for a communication system using Point to Point Protocol (PPP) wherein:

after an LCP phase process is completed between a terminal device and a packet data serving node,

said terminal device starts an NCP phase process and transmits an NCP start request message to said packet data serving node; and

said packet data serving node starts an NCP phase process after the NCP start request message is received from said terminal, and transmits an NCP start request message to said terminal by using a layer 3 protocol notified from said terminal.